

Description of *Ambanus jaegeri* sp. n. and of the male of *A. euini* (Paik) from Korea (Arachnida: Araneae: Amaurobiidae)

Byung-Woo KIM

Department of Life Science, College of Natural Sciences, Hanyang University,
Seoul 133-791, Korea. Email: bwkim00@hotmail.com

Description of *Ambanus jaegeri* sp. n. and of the male of *A. euini* (Paik) from Korea (Arachnida: Araneae: Amaurobiidae). - Two species of the genus *Ambanus* from Korea are described and illustrated in detail. *Ambanus jaegeri* sp. n. and the male of *Ambanus euini* (Paik, 1976) are described for the first time. The new species is distinguished by its male palp with cymbial furrow longer than half the cymbium length, dorsal apophysis of conductor elongated and bent distally, median apophysis small, semi-circular, with sharp apical edge, and by its epigynum with widely triangular atrium and broadly curved copulatory ducts with transparent membranes.

Keywords: Taxonomy - Coelotinae - new species - Korea.

INTRODUCTION

The Holarctic spider subfamily Coelotinae is one of the most common spider taxa in the region from North America to East Asia. Wang (2002) revised the Coelotinae at the generic level based on 31 characters and 22 taxa, together with two outgroup taxa (*Tamgrinia*, *Amaurobius*). The subfamily comprises at least 373 species (Platnick, 2007; Wang, 2002, 2007). Of these, the genus *Ambanus* Ovtchinnikov, 1999 includes 18 species from several Asian countries (Korea, 10 species; Russia, 4; China, 3; Japan, 1). These taxa are characterized by the absence of a femoral apophysis, the presence of dorsal apophysis of the conductor, a large epigynal atrium, and broadly expanded, posteriorly originating copulatory ducts. More than nine species of *Ambanus* were described only from male or female specimens and they have been previously included in the genus *Coelotes* Blackwall, 1841 (Paik, 1974, 1976, 1978; Song *et al.*, 1993; Kim & Jung, 1993; Ovtchinnikov, 1999). Although Namkung (2001, 2003) presented simple illustrations of nine *Ambanus* species (*A. bifidus* [Paik, 1976], *A. dimidiatus* [Paik, 1974], *A. euini* [Paik, 1976], *A. kayasanensis* [Paik, 1972], *A. kimi* [Paik, 1974], *A. lunatus* [Paik, 1976], *A. ovatus* [Paik, 1976], *A. paikwunensis* [Kim & Jung, 1993], *A. quadrativulvus* [Paik, 1974]), these cannot be reliably identified from his illustrations. Kim & Lee (2006) revised two poorly known species, *A. lunatus* and *A. coreana*, and the latter was transferred to become the type species of the monotypic genus *Alloclubionoides* Paik, 1992 (Clubionidae). Furthermore, the female paratype of *Ambanus paikwunensis* and female specimens identified as *A. lunatus* from Korea are in fact the females of *A. coreana*. Kim & Lee (2007) transferred *A. kayasanensis* to the

genus *Draconarius* on the basis of several characters: The presence of a patellar apophysis, the hooked dorsal apophysis of the conductor, the position of the spermathecal head, etc.

During a survey of the spider fauna of Korea spiders of the genus *Ambanus* were collected by means of pitfall traps in natural forests and caves. In this paper the male of *Ambanus euini* is described for the first time and *Ambanus jaegeri* is described as a new species. The main goal of this paper is to provide data for a future revisional study of the endemic Korean spider genus *Ambanus*.

MATERIAL AND METHODS

The Korean National Park of Mt Odae (KNPO) is situated in Pyungchang-gun and Hongcheon-gun, Gangwon-do. Three collection sites (Woljeong temple, GPS: N 37°43'48", E 128°35'43"; Sangwon temple, GPS: N 37°47'00", E 128°34'10"; and Maebong mountain peak, GPS: N 37°45'34.7", E 128°42'57.4") were chosen. All are located beside small streams, with vegetation characterized by a mixture of dead trees, giant fir trees (*Abies holophylla*) and broadleaf species (*Quercus mongolica*). At each station two pitfall traps (plastic cups, height 6.3 cm, diameter 8 cm) were set 10 m apart and filled with ethylene glycol (see Greenslade & Greenslade, 1971). Specimens were preserved in 70% ethanol. Measurements of all parts are in millimeters unless noted otherwise and are given for one specimen of each sex. Specimens examined in this paper will be deposited in the National Institute of Biological Resources (NIBR), in the collections of the Arachnological Institute of Korea (AIK), the Laboratory of Biodiversity, Hanyang University (LBHU) and in the Muséum d'histoire naturelle, Genève (MHNG).

The descriptive terminology follows that of Kim & Lee (2006, 2007). Abbreviations: a, apical; AER, anterior eye row; ALE, anterior lateral eye; ALS, anterior lateral spinneret; AME, anterior median eye; CDA, dorsal apophysis of conductor; d, dorsal; ITA, intermediate tibial apophysis; KNPO, Korean National Park of Mt Odae; p, prolateral; PER, posterior eye row; PLE, posterior lateral eye; PLS, posterior lateral spinneret; PME, posterior median eye; PMS, posterior median spinneret; r, retrolateral; RTA, retrolateral tibial apophysis; I, II, III, IV, first, second, third, forth legs.

TAXONOMY

Ambanus euini (Paik, 1976)

Figs 1-3, 7A-C

Coelotes euini Paik, 1976: 78, figs 6-8 (description of female); Paik 1978: 341, fig. 151.1-2.

Ambanus euini: Ovtchinnikov 1999: 64 (transferred from *Coelotes*).

MATERIAL EXAMINED: 1 female, 1 male (AIK), 3 November, 1984, Mt Yebong, Gyeonggi-do, leg. K.S. Lee; 1 female (LBHU), 13 October, 2001, Mt Gyeong, Gangwon-do, leg. T.S. Kwon; 1 male, 1 female (NIBR), 1 May, 2005, Woljeong temple, 1 male (NIBR), 10 June, 2005, Gwangmijang, 55 males, 3 females (LBHU), 11 June, 2005, Sangwon temple, 100 males, 12 females (LBHU), 11 June, 2005, Mabong mountain peak, 5 males (NIBR), 22 July, 2005, Woljeong temple, 2 males (NIBR), 4 September, 2005, Woljeong temple, female (NIBR), 28 September, 2005, Sangwon temple, 10 males, 7 females (LBHU), 11 October, 2005, Woljeong temple, 2 females, 2 males (MHNG), 8 November, 2005, Woljeong temple, KNPO, Gangwon-do, leg. B.W. Kim.

DIAGNOSIS: This species is similar to *A. jaegeri* sp. n., *A. ovatus* and *A. quadrativulvus* in having the epigynal atrium very broadly oval and situated posteriorly near the epigastric furrow; atrial septum and atrial hood absent or indistinct; epigynal teeth absent; copulatory ducts broadly curved with transparent membranes on both lateral margins; male palpal organ with large embolus with curved distal part; dorsal apophysis of conductor present; conductor hook-like, with a rounded distal end. The female of *Ambanus euini* can be distinguished by its long oval genital atrium expanded to both spermathecal stalks, 3.5 times as wide as long (length 0.2 mm, width 0.7 mm); copulatory ducts broadly curved, with transparent membranes, overlapped slightly for one third of the outline of the longest duct. Males are distinguished by patellar apophysis being very small; cymbial furrow (1.1 mm) shorter than half of cymbium length (2.5 mm); dorsal apophysis of conductor horn-like, expanded to conductor and situated on the side of conductor; median apophysis developed as a small thin semicircular projection.

MEASUREMENTS: Male (female in parentheses): Body length 9.3 (11.5); chelicera length 2.3 (2.9), chelicera width 1.2 (1.6), cheliceral fang length 1.2 (1.5); clypeus height 0.5 (0.4); carapace length 4.9 (5.9), carapace width 3.4 (3.6), carapace height 2.6 (2.9); maxillae length 1.6 (1.8), maxillae width 0.8 (1.0); labium length 0.8 (1.0), labium width 0.7 (0.9); sternum length 2.5 (2.7), sternum width 2.0 (2.2); AER 0.9 (1.0), PER 1.2 (1.4), AME 0.2 (0.1), ALE 0.3 (0.3), PME 0.2 (0.2), PLE 0.2 (0.3). Eye formula ALE>PLE=PME=AME (ALE=PLE>PME>AME). Palp 5.3 (5.6) [1.7 (1.9), 0.7 (0.8), 0.4 (1.1), 2.5 (1.8)]. First leg 13.0 (13.2) [3.6 (3.7), 1.6 (1.7), 2.9 (3.0), 3.1 (3.0), 1.8 (1.8)], second leg 12.2 (12.2) [3.4 (3.4), 1.6 (1.8), 2.5 (2.5), 3.0 (2.9), 1.7 (1.6)], third leg 11.7 (11.6) [3.2 (3.2), 1.5 (1.6), 2.1 (2.1), 3.2 (3.1), 1.7 (1.6)], fourth leg 15.4 (15.4) [4.0 (4.1), 1.6 (1.7), 3.3 (3.3), 4.5 (4.4), 2.0 (1.9)]. Leg formula IV I II III (IV I II III). Abdomen length 4.7 (6.0), abdomen width 2.9 (3.8), abdomen height 2.6 (3.5).

DESCRIPTION OF MALE (from Woljeong temple, KNPO, 1 May, 2005 [NIBR]): Medium-sized spider, shorter than female. Carapace elongate, 1.4 times as long as wide, moderately narrowed in thorax area, with distinctly longitudinal fovea (Fig. 1A). AER straight and PER slightly procurved in frontal view; ALE larger than other eyes, AME separated by slightly less than their diameter, and longest eye row width to carapace width ratio 35 (Fig. 1A). Clypeus height 2.5 times as long as AME diameter; a pair of eyebrow-shaped chila present (Fig. 1B). Chelicerae with numerous long setae; lateral condyle yellowish brown; three promarginal teeth on groove, middle one largest, and two retromarginal teeth of subequal size (Fig. 1C). Maxillae reddish brown, widest at mid-part. Labium rectangular, slightly longer than wide (Fig. 1D). Sternum shield-shaped, widest between second coxae, not produced between fourth coxae (Fig. 1E). Palp, see Figure 1G-J; tibia with 12 trichobothria in three rows (5d-6d-2r), tarsus with five trichobothria in one row (5d); femur with three spines, tibia with four spines (one, 1-0 dorsally; three, 2-1 prolaterally), tarsus with eight spines (one, 1-0-0 dorsally; three, 1-1-1 prolaterally; two, 0-2 retrolaterally; two, 0-2 ventrally). Legs (Fig. 1F) yellowish brown; patella + tibia of first leg always shorter than carapace length; trochanters not notched; tibiae with 20-23 trichobothria in four rows

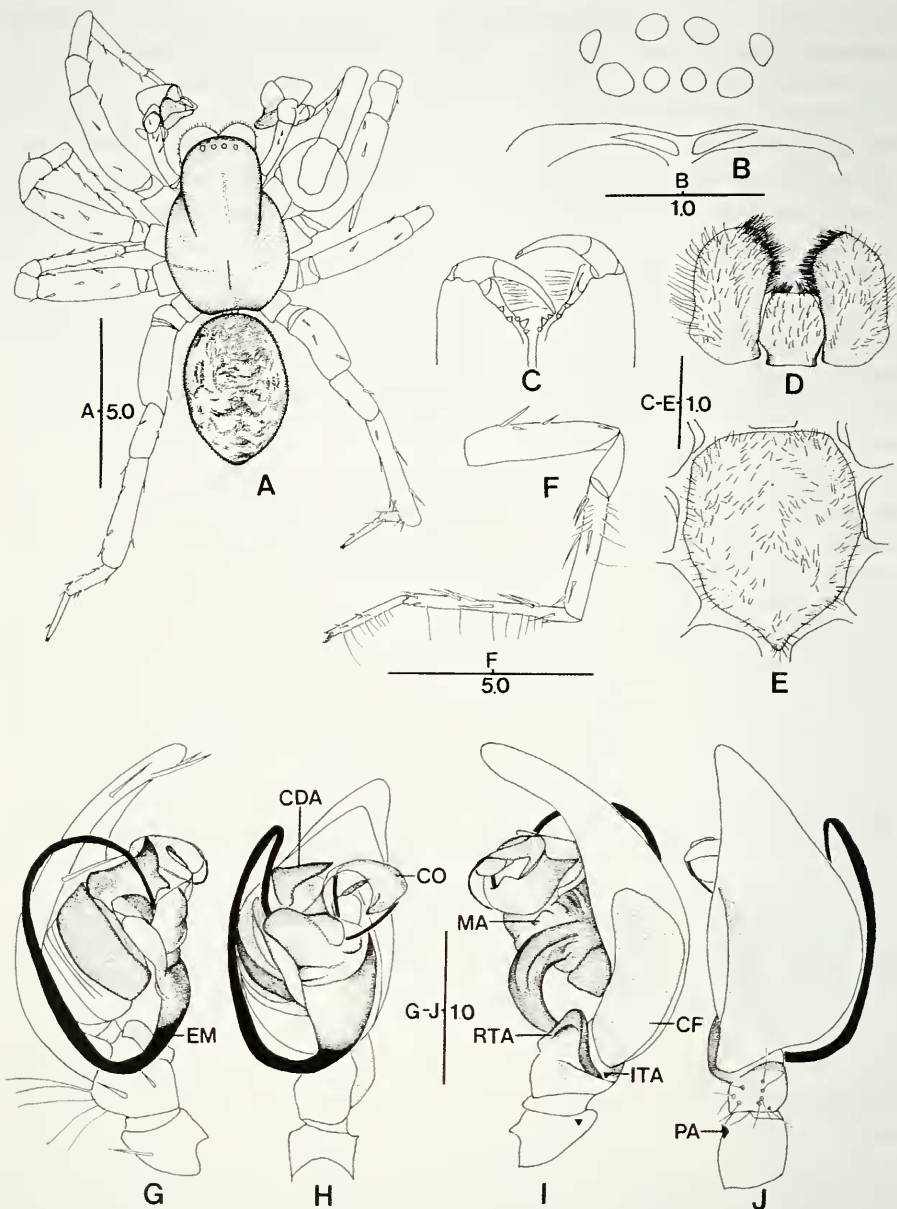


FIG. 1

Ambanus euini (Paik, 1976), male (NIBR; 1 May, 2005) from Woljeong temple, KNPO. (A) Habitus, dorsal view. (B) Eye area and clypeus, frontal view. (C) Chelicerae, posterior view. (D) Maxillae and labium, ventral view. (E) Sternum, ventral view. (F) Left leg IV, prolateral view. (G-J) Left palp, prolateral view (G), ventral view (H), retrolateral view (I), dorsal view (J). Note: CDA, dorsal apophysis of conductor; CF, cymbial furrow; CO, conductor; EM, embolus; ITA, intermediate tibial apophysis; MA, median apophysis; PA, patellar apophysis; RTA, retrolateral tibial apophysis.

(5p-6d-5d-6r on first leg, 5p-6d-6d-6r on second, 4p-6d-5d-5r on third, 5p-6d-6d-6r on fourth), metatarsi with seven to eight trichobothria in one row (eight on first and fourth leg, seven on second and third leg), tarsi with eight to nine trichobothria in one row (nine on first and fourth leg, eight on second and third leg); tarsal organ situated close to distal end of tarsus, slightly anteriorly part of distal trichobothrium; tarsi with three claws, upper claws with 9-13 teeth (13 on first leg, 12 on second, nine on third, 10 on fourth), lower claw with zero to one tooth (zero on first, second and third leg, one on fourth). Leg spination (see Table 1): Leg I: Femur with four spines, tibia with seven spines (one, 0-0-1 prolaterally; six, 2-2-2a ventrally), metatarsus with seven spines (one, 0-0-1 prolaterally; six, 2-2-2 ventrally), tarsus without spine; leg II: Femur with four spines, tibia with five spines (one, 0-0-1 prolaterally; four, 1-1-2a ventrally), metatarsus with nine spines (three, 1-0-2 prolaterally; six, 2-2-2 ventrally), tarsus without spine; leg III: Femur with six spines, tibia with 10 spines (four, 1-1 prolaterally and retrolaterally; six, 2-2-2a ventrally), metatarsus with 16 spines (ten, 1-2-2 prolaterally and retrolaterally; six, 2-2-2 ventrally), tarsus with three spines (two, 0-1-1 prolaterally; one, 0-1-0 retrolaterally); leg IV: Femur with five spines, tibia with 11 spines (one, 1-0-0 dorsally; four, 1-1 prolaterally and retrolaterally; six, 2-2-2a ventrally), metatarsus with 17 spines (one, 1-0-0 dorsally; ten, 1-2-2 prolaterally and retrolaterally; six, 2-2-2 ventrally), tarsus with six spines (six, 0-1-1 prolaterally, retrolaterally and ventrally). Abdomen ovoid, with scattered brownish yellow spots and chevrons on dorsal side (Fig. 1A). Cribellum absent.

Palp (Figs 1G-J, 7A-B): Patellar apophysis very small; RTA modified with small ITA; cymbial furrow (1.1 mm) shorter than half the cymbium length (2.5 mm); tegular sclerite weakly sclerotized and situated longitudinally on tegulum; conductor broadly hook-like, bent in a clockwise direction (left palp), its distal end rounded; dorsal apophysis of conductor horn-like, expanded towards and facing the conductor; embolus long slender, broadly wound clockwise (left palp) and penetrating into the middle of the tegulum; median apophysis a small thin semicircular projection.

TABLE 1. Spination of leg segments in *Ambanus euini* (Paik, 1976) from Korea. Male (female in parentheses). Note: a, apical part; metat., metatarsus; [], according to original description by Paik (1976).

		dorsal	ventral	prolateral	retrolateral
1st leg	femur	110 (1 1)	0 (0)	002 (002)	0 (0)
	tibia	0 (0)	222 (222a)	001 (001)	0 (0)
	metat.	0 (0)	222 (222)	001 (011)	0 (0)
	tarsus	0 (0)	0 (0)	0 (0)	0 (0)
2nd leg	femur	1 1 (1 1)	0 (0)	011 (011)	0 (0)
	tibia	0 (0)	112a (222a)	001 (011)	0 (0)
	metat.	0 (0)	222 (222)	102 (012)	0 (010)
	tarsus	0 (0)	0 (0)	0 (0)	0 (0)
3rd leg	femur	121 (121)	0 (0)	1 1 (1 1)	0 (0)
	tibia	0 (0 [1 1])	222a (222a)	1 1 (1 1)	1 1 (0 1 [1 1])
	metat.	0 (0)	222 (222)	122 (122)	122 (122)
	tarsus	0 (0)	0 (0)	011 (011)	010 (010)
4th leg	femur	111 (111)	0 (0)	101 (1 1)	0 (0)
	tibia	100 (101)	222a (222a)	1 1 (1 1)	1 1 (1 1)
	metat.	100 (110)	222 (222)	122 (112)	222 (122)

DESCRIPTION OF FEMALE (from Woljeong temple, KNPO, 1 May, 2005 [NIBR]): Medium-sized spider, longer than male. Carapace elongate, 1.6 times longer than wide, moderately narrowed in thorax area, with distinctly longitudinal fovea on middle (Fig. 2A). AER almost straight and PER slightly procurved in frontal view; AME smaller than other eyes, separated by as much as their diameter, and longest eye row width to carapace width ratio 28 (Fig. 2A). Clypeus height four times as long as AME diameter; distinct chilum present (Fig. 2B). Chelicerae with numerous long setae; lateral condyle yellowish brown; with three promarginal teeth on groove, middle one largest, and two retromarginal teeth of subequal size (Fig. 2C). Maxillae reddish brown, widest at mid-part. Labium rectangular, slightly longer than wide (Fig. 2D). Sternum shield-shaped, widest between second coxae, 1.2 times as long as wide and slightly projecting between 4th coxae (Fig. 2E). Palp: Claw with seven teeth; tibia with 15 trichobothria in three rows (6d-6d-3r), tarsus with six trichobothria in one row (5d); femur with three spines, tibia with five spines (two, 1-1 dorsally; three, 0-1-2 prolaterally), tarsus with 16 spines (one, 1-0 dorsally, six, 3-2-1 prolaterally; five, 2-2-1 retrolaterally; four, 0-0-4 ventrally). Legs (Fig. 2F) yellowish brown, without ring patterns; patella + tibia of first leg always shorter than carapace length; trochanters not notched; tibiae with 22-25 trichobothria in four rows (6p-6d-6d-7r on first leg, 6p-6d-6d-6r on second, 5p-6d-6d-5r on third, 5p-7d-6d-6r on fourth), metatarsi with seven to nine trichobothria in one row (seven on first leg, eight on second and third, nine on fourth), tarsi with eight to 10 trichobothria in one row (nine on first and second leg, eight on third, 10 on fourth); tarsal organ situated close to distal end of each leg tarsus, slightly anteriorly of distal trichobothrium; tarsi with three claws, upper claws with 9-12 teeth (12 on first leg, 12 on second, 10 on third and nine fourth), lower claw with one to two (one on first and second leg, two on third and fourth leg). Leg spination (see Table 1): Leg I: Femur with three spines, tibia with seven spines, one small spine on inner ventral side half as long as others (one, 0-0-1 prolaterally; six, 2-2-2a ventrally), metatarsus eight (two, 0-1-1 prolaterally; six, 2-2-2 ventrally), tarsus without spine; leg II: Femur with four spines, tibia with eight spines, one small spine on inner ventral side half as long as others (two, 0-1-1 prolaterally; six, 2-2-2a ventrally), metatarsus with 10 spines (three, 0-1-2 prolaterally; one, 0-1-0 retrolaterally; six, 2-2-2 ventrally), tarsus without spine; leg III: Femur with six spines, tibia with nine spines (two, 1-1 prolaterally; one, 0-1 retrolaterally; six, 2-2-2a ventrally), metatarsus with 16 spines (ten, 1-2-2 prolaterally and retrolaterally; six, 2-2-2 ventrally), tarsus with three spines (two, 0-1-1 prolaterally; one, 0-1-0 retrolaterally); leg IV: Femur with five spines, tibia with 12 spines, two slender spines on dorsal (two, 1-0-1 dorsally; four, 1-1 prolaterally and retrolaterally; six, 2-2-2a ventrally), metatarsus with 17 spines, two spines on dorsal side (two, 1-1-0 dorsally; four, 1-1-2 prolaterally; five, 1-2-2 retrolaterally; six, 2-2-2 ventrally), tarsus with six spines (six, 0-1-1 prolaterally, retrolaterally and ventrally respectively). Abdomen ovoid, with scattered brownish yellow spots and chevrons on dorsal side (Fig. 2A). Cribellum absent.

Epigynum (Figs 2G, H, 3A-B, 7C): Epigynal teeth absent; epigynal opening long oval, expanded to both spermathecal stalks, 3.5 times as wide as long (length 0.2 mm, width 0.7 mm); atrial septum indistinct, originating on posterior plate; copulatory pores deep, round on both sides; without atrial hood; copulatory ducts broadly

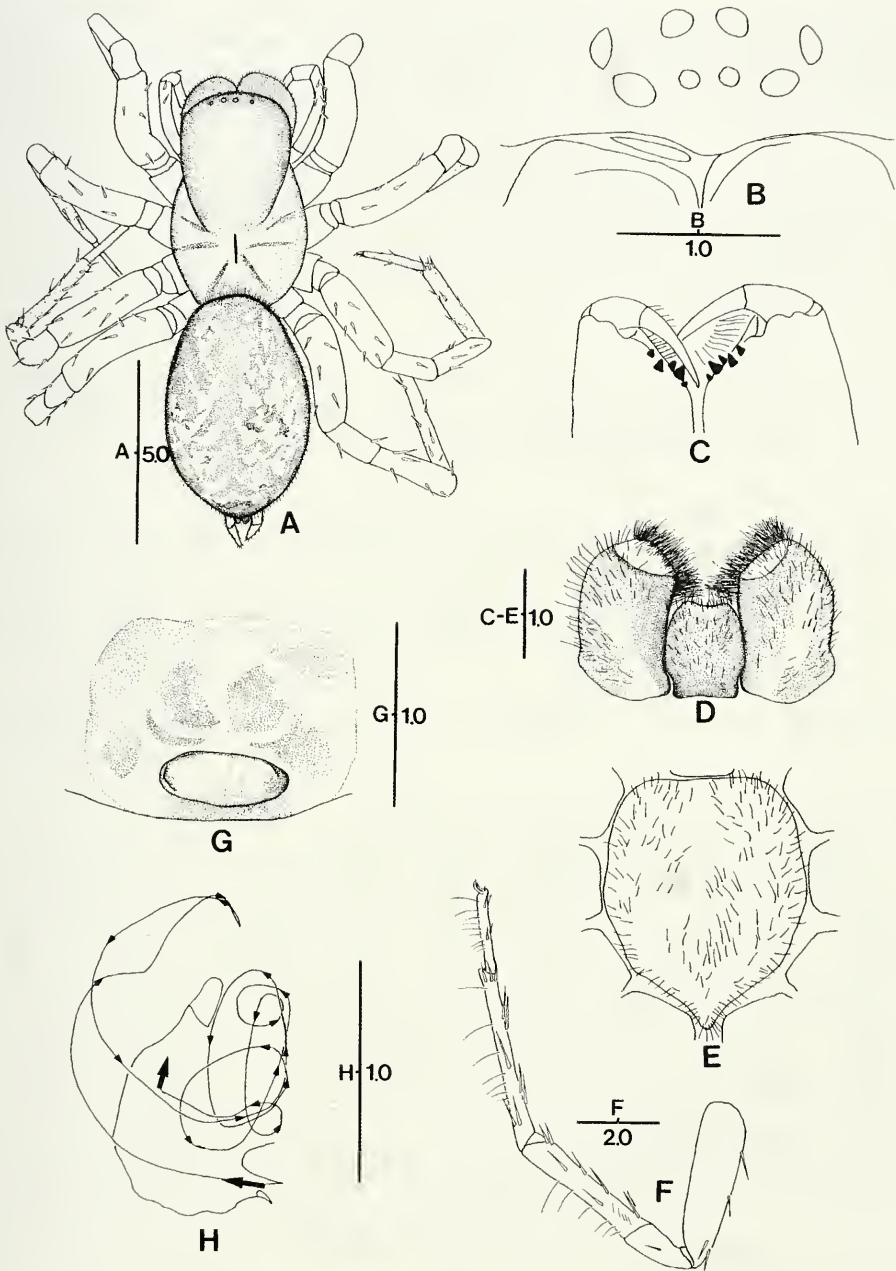


FIG. 2

Ambanus euini (Paik, 1976), female (NIBR; 1 May 2005) from Woljeong temple, KNPO. (A) Habitus, dorsal view. (B) Eye area and clypeus, frontal view. (C) Chelicerae, posterior view. (D) Maxillae and labium, ventral view. (E) Sternum, ventral view. (F) Left leg IV, prolateral view. (G) Epigynum, ventral view. (H) Course of copulatory duct, right part, ventral view.

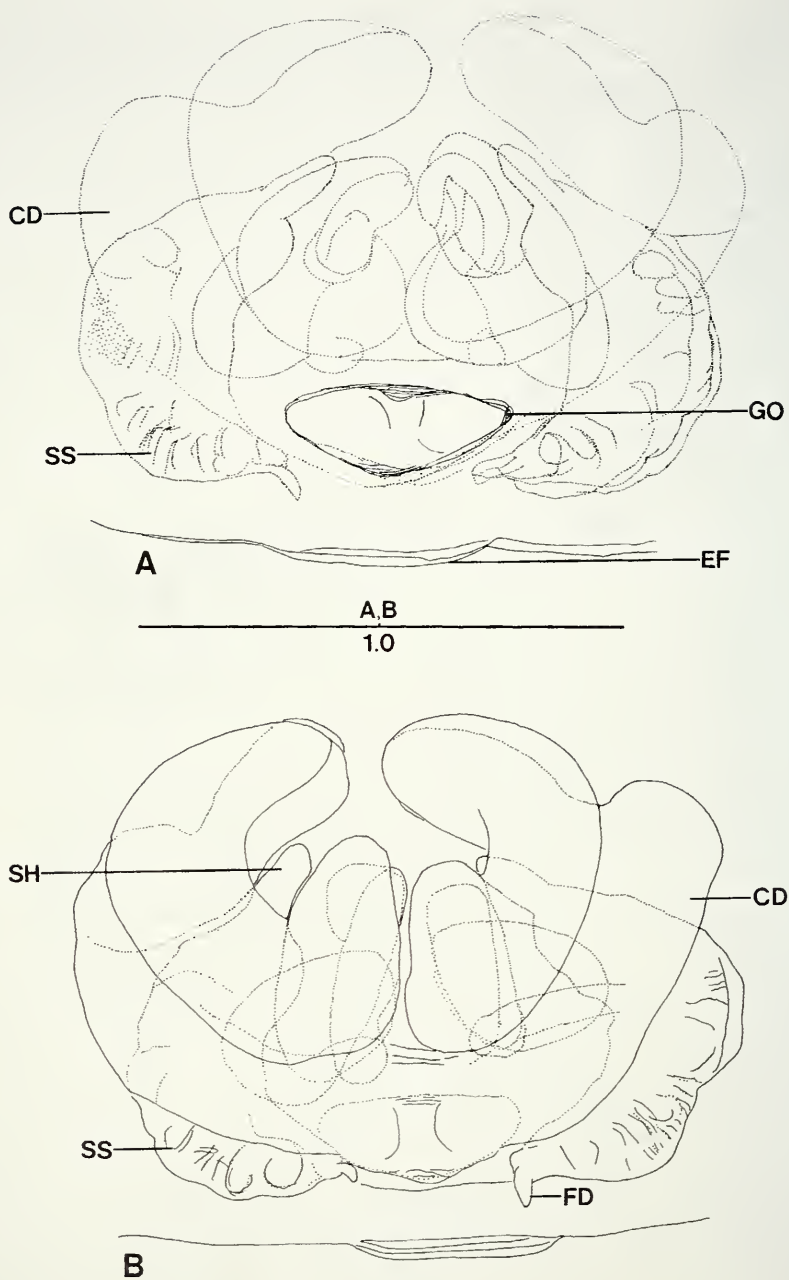


FIG. 3

Ambanus euini (Paik, 1976), female (NIBR; 1 May 2005) from Woljeong temple, KNPO. (A) Epigynum, ventral view. (B) Vulva, dorsal view.

Note: CD, copulatory duct; EF, epigastric furrow; FD, fertilization duct; GO, genital opening; SH, spermathecal head; SS, spermathecal stalk.

curved, with transparent membranes, slightly overlapped for one third of the outline of the longest duct (from genital opening to upper returning part); spermathecal heads developed as small cylindrical processes situated at anterior end of spermathecae; spermathecae large, curved inwards, with distinct stalks and bases; fertilization ducts small, arising from the posterior ends of the spermathecae.

DISTRIBUTION: Korea (Mt Gyebang, Mt Odae, Mt Yebong).

REMARKS: The female of *A. euini* collected from Mt Odae is redescribed with a multitude of characters (leg spination, trichobothrial patterns, etc.) neglected in the original description. The specimens examined were found wandering on the ground among stones and leaf litter.

Ambanus jaegeri sp. n.

Figs 4-6, 7D-F

Ambanus euini: Namkung, 2002: 398, fig. 28.12a-b (description of female), 2003: 400, fig. 28.12a-b; Kim and Cho, 2002: 176, photos 355-360 (description of male and female). Misidentification.

MATERIAL EXAMINED: Male holotype (NIBR), 11 June, 2005, Sangwon temple, KNPO, Gangwon-do, leg. B.W. Kim. Paratypes: 1 female (NIBR), 11 June, 2005, Sangwon temple, KNPO, Gangwon-do; 1 male (AIK), 23 August, 2003, Mt Samak, Gangwon-do, B.W. Kim; 1 female (MHNG), 1 male (MHNG), 11 males (LBHU), 2 females (LBHU), 11 June, 2005, Sangwon temple, 1 male (LBHU), 11 June, 2005, Woljeong temple, 1 female (LBHU), 11 June, 2005, Maebong mountain peak, 1 female (LBHU), 3 September 2005, Dongpi valley, 1 female (AIK), 4 September, 2005, Sangwon temple, KNPO, Gangwon-do, leg. B.W. Kim.

ETYMOLOGY: The specific name is a patronym in honor of Dr Peter Jäger, the German arachnologist who supported the early stages of my taxonomic studies with dedicated assistances and encouragement.

DIAGNOSIS: This species is similar to *A. euini*, *A. ovatus* and *A. quadrativulvus* in having the epigynal atrium very broadly oval, situated posteriorly near the epigastric furrow; atrial septum and atrial hood absent or indistinct; epigynal teeth absent; copulatory ducts broadly curved, with transparent membranes on both lateral margins; male palpal organ with large embolus with curved distal part; dorsal apophysis of conductor present; conductor hook-like, with a rounded distal end situated in centre of papal organ. The female of *Ambanus jaegeri* sp. n. can be distinguished by its triangular epigynal atrium which is heart-shaped and two times as wide as long (length 0.3 mm, width 0.6 mm); copulatory ducts broadly curved, with transparent membranes, slightly overlapped for half of the outline of the longest duct. Males are distinguished by patellar apophysis absent; cymbial furrow (1.6 mm) longer than half the cymbium length (2.8 mm); dorsal apophysis of conductor slender, horn-like, expanded, curving towards top of cymbium and facing the conductor; median apophysis developed as a small, thin, semicircular projection with sharp apical part.

MEASUREMENTS: Male (female in parentheses): Body length 9.4 (11.2); chelicera length 2.6 (2.7), chelicera width 1.2 (1.3), cheliceral fang length 1.4 (1.4); clypeus height 0.3 (0.3); carapace length 5.5 (5.3), carapace width 3.6 (3.4), carapace height 1.9 (1.7); maxillae length 1.8 (1.6), maxillae width 0.8 (0.9); labium length 1.0 (0.9), labium width 0.8 (0.8); sternum length 2.7 (2.6), sternum width 2.0 (2.1); AER 0.8 (0.9), PER 1.2 (1.3), AME 0.1 (0.1), ALE 0.2 (0.2), PME 0.1 (0.2), PLE 0.2 (0.2).

TABLE 2. Spination of leg segments of *Ambanus jaegeri* sp. n. from Korea. Male (female in parentheses). Note: a, apical part; metat., metatarsus.

		dorsal	ventral	prolateral	retrolateral
1st leg	femur	110 (2 1)	0 (0)	002 (002)	0 (0)
	tibia	0 (0)	222a (222a)	001 (011)	0 (0)
	metat.	0 (0)	222 (222)	011 (101)	0 (001)
	tarsus	0 (0)	0 (0)	0 (0)	0 (0)
2nd leg	femur	110 (110)	0 (0)	1 1 (011)	0 (0)
	tibia	0 (0)	222a (112a)	011 (011)	0 (0)
	metat.	0 (0)	222 (222)	012 (012)	0 (011)
	tarsus	0 (0)	0 (100)	0 (0)	0 (0)
3rd leg	femur	122 (122)	0 (0)	101 (101)	0 (0)
	tibia	0 (100)	222 (222a)	1 1 (1 1)	1 1 (011)
	metat.	0 (0)	222 (222)	122 (122)	122 (122)
	tarsus	0 (0)	010 (010)	011 (011)	010 (010)
4th leg	femur	112 (112)	0 (0)	1 0 (0)	0 (0)
	tibia	0 (0)	222 (222a)	1 1 (1 1)	1 1 (1 1)
	metat.	100 (0)	222 (222)	122 (122)	122 (122)
	tarsus	0 (0)	010 (010)	011 (013)	011 (011)

Eye formula ALE=PLE>PME=AME (ALE=PLE>PME>AME). Palp 5.8 (5.1) [1.9 (1.7), 0.7 (0.7), 0.4 (1.0), 2.8(1.7)]. First leg 15.5 (12.1) [4.3 (3.3), 1.7 (1.6), 3.5 (2.8), 3.8 (2.8), 2.2 (1.6)], second leg 14.2 (11.3) [3.9 (3.2), 1.7 (1.6), 3.0 (2.3), 3.5 (2.6), 2.1 (1.6)], third leg 13.3 (10.9) [3.5 (3.0), 1.7 (1.4), 2.4 (1.9), 3.7 (2.9), 2.0 (1.5)], fourth leg 17.4 (14.4) [4.6 (3.5), 1.7 (1.7), 3.6 (3.1), 5.2 (4.2), 2.3 (1.9)]. Leg formula IV I II III (IV I II III). Abdomen length 4.9 (6.5), abdomen width 2.9 (4.1), abdomen height 2.8 (3.9).

DESCRIPTION OF MALE (holotype): Medium-sized spider, shorter than female. Carapace elongate, 1.3 times as long as wide, moderately narrowed in thorax area, with distinctly longitudinal fovea (Fig. 4A). AER straight and PER slightly procurved in frontal view; AME smaller than other eyes, separated by slightly less than their diameter, longest eye row width to carapace width ratio 33 (Fig. 4B). Clypeus height three times as long as AME diameter; a pair of eyebrow-shaped chila present (Fig. 4B). Chelicerae with numerous long setae; lateral condyle yellowish brown; three pro-marginal teeth on groove, middle one largest, and two retromarginal teeth of subequal size (Fig. 4C). Maxillae reddish brown, widest at mid-part. Labium rectangular, slightly longer than wide (Fig. 4D). Sternum shield-shaped, widest between second coxae, not produced between fourth coxae (Fig. 4E). Palp, see Figure 4G-J; tibia with 14 trichobothria in three rows (5d-3d-6r), tarsus with five trichobothria in one row (5d) and femur with three spines, tibia with three spines (1-2 prolaterally), tarsus with four spines (four, 0-0-0-2 prolaterally and retrolaterally). Legs (Fig. 4F) yellowish brown; patella + tibia of first leg always shorter than carapace length; trochanters not notched; tibia with 20-24 trichobothria in four rows (5p-6d-5d-6r on first leg, 6p-6d-6d-6r on second, 4p-6d-5d-5r on third, 5p-7d-6d-4r on fourth), metatarsi with seven to nine trichobothria in one row (nine on first and fourth leg, eight on second, seven on third), tarsi with seven to nine trichobothria in one row (nine on first, third and fourth leg, seven on second); tarsal organ situated close to distal end of tarsus, slightly anteriorly

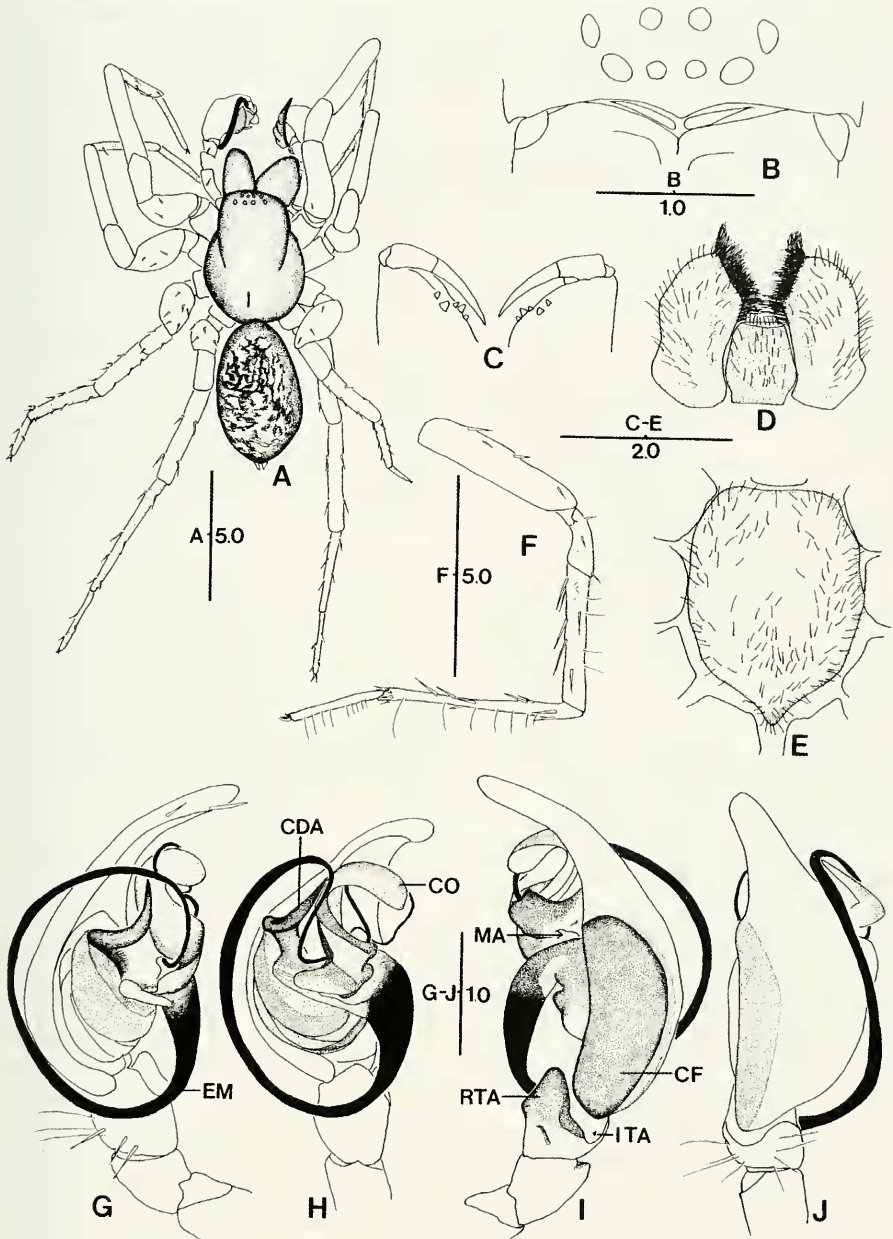


FIG. 4

Ambanus jaegeri sp. n., male holotype. (A) Habitus, dorsal view. (B) Eye area and clypeus, frontal view. (C) Chelicerae, posterior view. (D) Maxillae and labium, ventral view. (E) Sternum, ventral view. (F) Left leg IV, prolateral view. (G-J) Left palp, prolateral view (G), ventral view (H), retrolateral view (I), dorsal view (J). Note: CDA, dorsal apophysis of conductor; CF, cymbial furrow; CO, conductor; EM, embolus; ITA, intermediate tibial apophysis; MA, median apophysis; RTA, retrolateral tibial apophysis.

of distal trichobothrium; tarsi with three claws, upper claws with 10-13 teeth (13 on first and second leg, 12 on third, 10 on fourth), lower claw without tooth. Leg spination (see Table 1): Leg I: Femur with four spines, tibia with seven spines, one small spine on inner ventral side half as long as others (one, 0-0-1 prolaterally; six, 2-2-2a ventrally), metatarsus with eight spines (one, 0-1-1 prolaterally; six, 2-2-2 ventrally), tarsus without spine; leg II: Femur with four spines, tibia with eight spines, one small spine on inner ventral and median prolateral side half as long as others (two, 0-1-1 prolaterally; four, 2-2-2a ventrally), metatarsus with nine spines (three, 0-1-2 prolaterally; six, 2-2-2 ventrally), tarsus without spine; leg III: Femur with seven spines, tibia with 10 spines (four, 1-1 prolaterally and retrolaterally; six, 2-2-2a ventrally), metatarsus with 16 spines (ten, 1-2-2 prolaterally and retrolaterally; six, 2-2-2 ventrally), tarsus with four spines (two, 0-1-1 prolaterally; two, 0-1-0 retrolaterally and ventrally); leg IV: Femur with five spines, tibia with 10 spines (four, 1-1 prolaterally and retrolaterally; six, 2-2-2 ventrally), metatarsus with 17 spines (one, 1-0-0 dorsally; ten, 1-2-2 prolaterally and retrolaterally; six, 2-2-2 ventrally), tarsus with five spines (four, 0-1-1 prolaterally and retrolaterally; one, 0-1-0 ventrally). Abdomen ovoid, with scattered brownish yellow spots and without distinct chevrons on dorsal side (Fig. 4A). Cribellum absent.

Palp (Figs 4G-J, 7D-E): Patellar apophysis absent; RTA modified with ITA; cymbial furrow (1.6 mm) longer than half the cymbium length (2.8 mm); tegular sclerite weakly sclerotized and situated longitudinally on tegulum; conductor broadly hook-like, bent in a clockwise direction (left palp), distal end rounded; dorsal apophysis of conductor slender, horn-like, expanded towards top of cymbium and facing the conductor; embolus long, slender, broadly wound clockwise (left palp) and penetrating the middle of the tegulum; median apophysis a small thin semicircular projection with sharp apical part.

DESCRIPTION OF FEMALE (paratype from Sangwon temple, KNPO, 11 June, 2005 [NIBR]): Medium-sized spider, longer than male. Carapace elongate, 1.4 times longer than wide, moderately narrowed in thorax area, with distinctly longitudinal fovea (Fig. 5A). AER straight and PER slightly procurved in frontal view; AME smaller than other eyes, separated by as much as their diameter, and longest eye row width to carapace width ratio 38 (Fig. 5B). Clypeus height three times as long as AME diameter; a pair of eyebrow-shaped chila present (Fig. 5B). Chelicerae with numerous long setae; lateral condyle yellowish brown; three promarginal teeth on groove, middle one largest, and two retromarginal teeth of subequal size (Fig. 5C). Maxillae reddish brown, widest at mid-part. Labium rectangular, 1.1 times as long as wide (Fig. 5D). Sternum shield-shaped, widest between second coxae, 1.2 times as long as wide, and slightly projecting between 4th coxae (Fig. 5E). Palp: Claw with seven teeth; tibia with 15 trichobothria in three rows (6d-6d-3r), tarsus with seven trichobothria in one row (7r); femur with three spines, tibia with five spines (three, 1-2 prolaterally; two, 1-1 retrolaterally), tarsus with 14 spines (one, 1-0-0 dorsally; six, 3-2-1 prolaterally; five, 2-2-1 retrolaterally; four, 0-0-4 ventrally). Legs (Fig. 5F) yellowish brown, without annulation; patella + tibia of first leg always shorter than carapace length; trochanters not notched; tibia with 22-25 trichobothria in four rows (5p-2-3d-6r on first leg, 5p-6d-5d-6r on second, 4p-6d-5d-5r on third, 5p-4d-5d-5r on fourth), metatarsi with six to

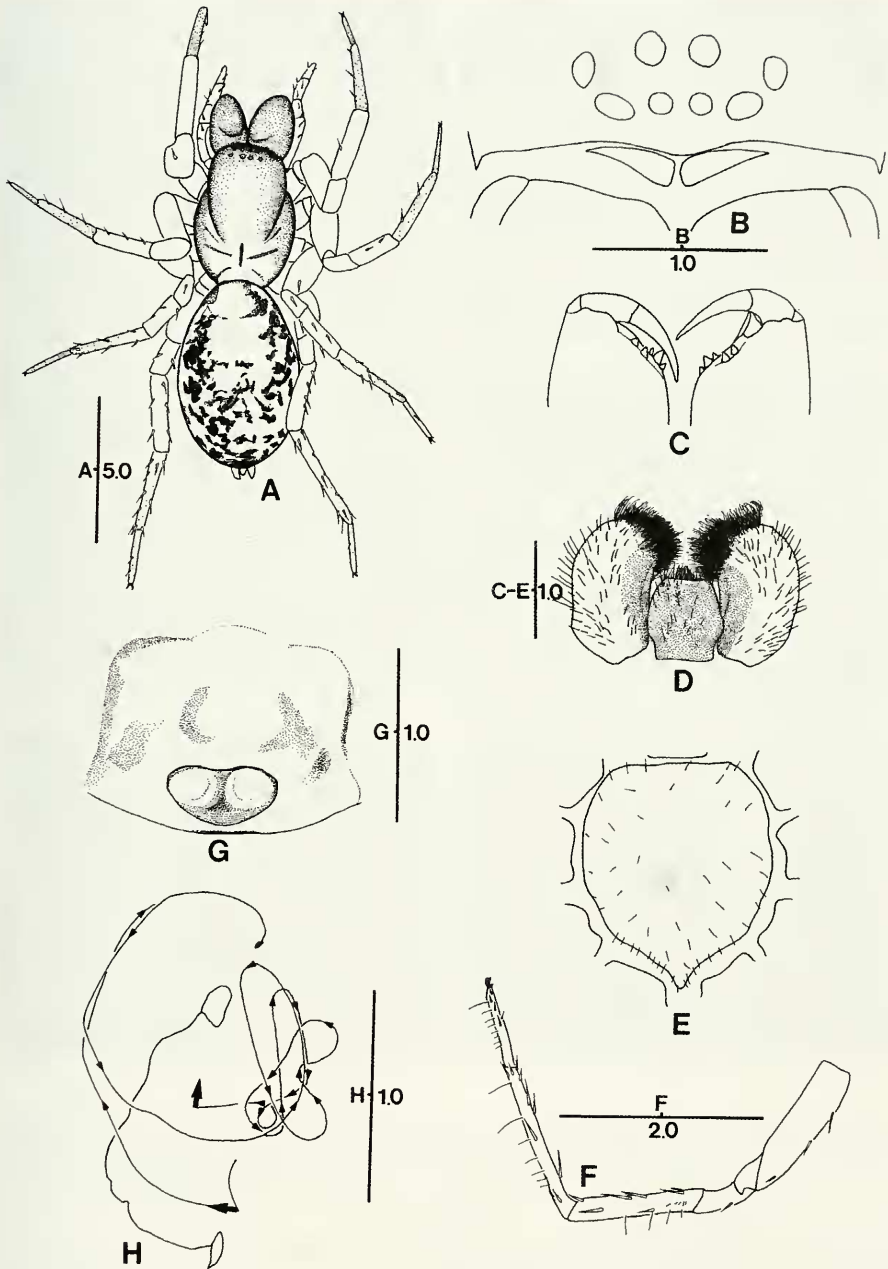


FIG. 5

Ambanus jaegeri sp. n., female paratype (NIBR; 11 June, 2005) from Sangwon temple, KNPO. (A) Habitus, dorsal view. (B) Eye area and clypeus, frontal view. (C) Chelicerae, posterior view. (D) Maxillae and labium, ventral view. (E) Sternum, ventral view. (F) Left leg IV, prolateral view. (G) Epigynum, ventral view. (H) Course of copulatory duct, right part, ventral view.

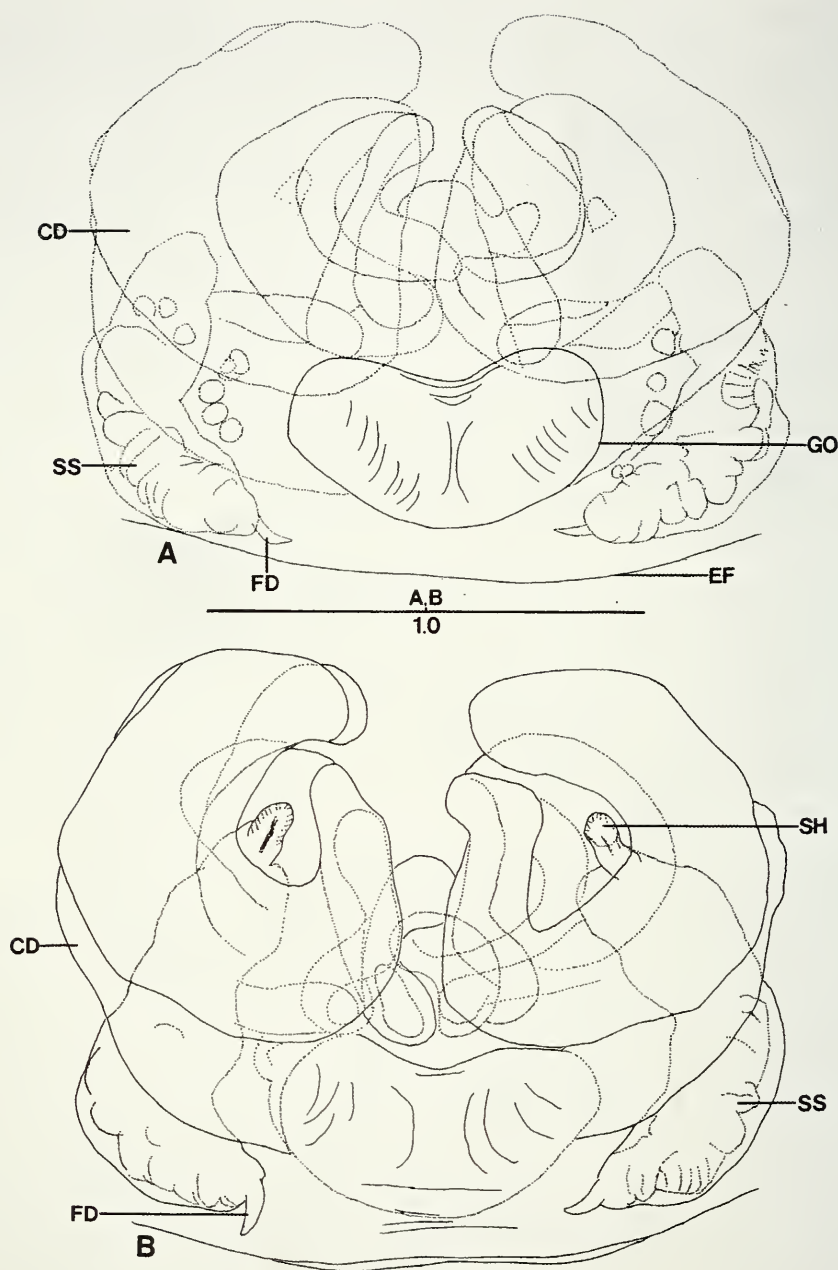


FIG. 6

Ambanus jaegeri sp. n., female paratype (NIBR; 11 June, 2005) from Sangwon temple, KNPO.
 (A) Epigynum, ventral view. (B) Vulva, dorsal view.

Note: CD, copulatory duct; EF, epigastric furrow; FD, fertilization duct; GO, genital opening; SH, spermathecal head; SS, spermathecal stalk.

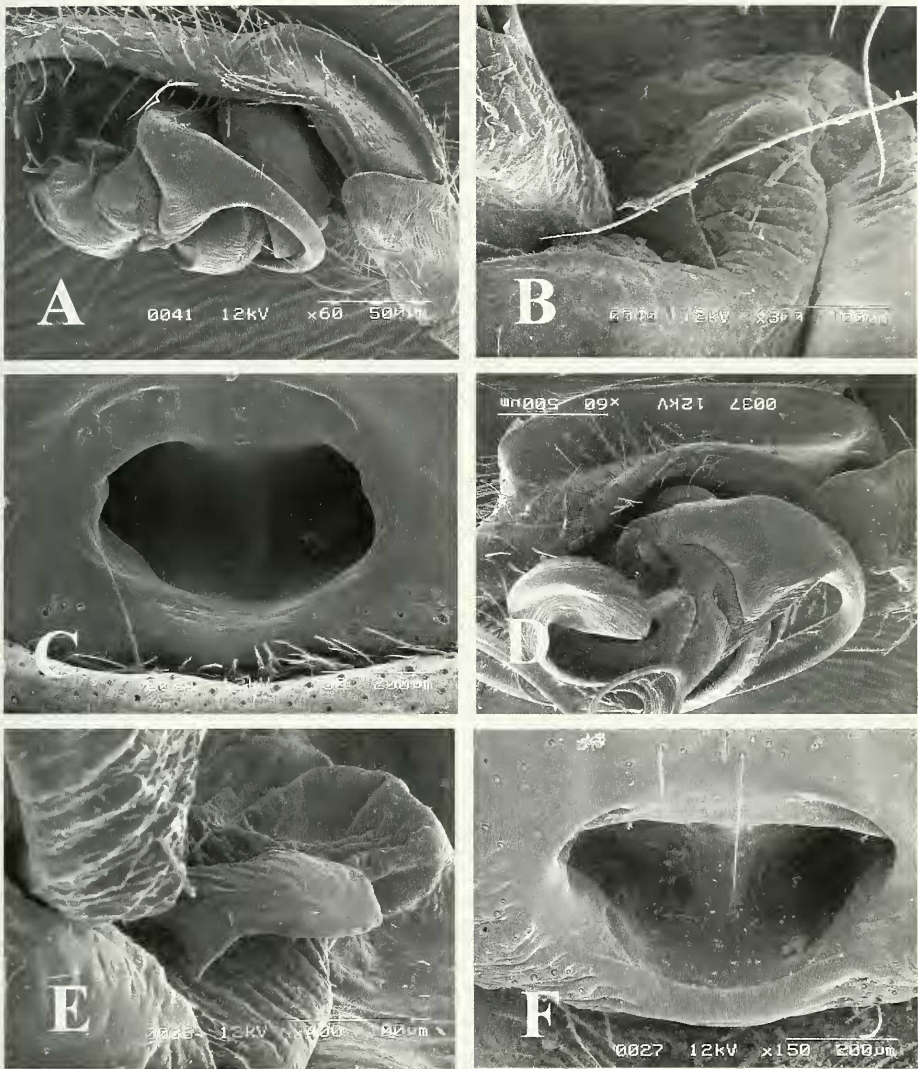


FIG. 7

SEM photographs of *Ambanus euini* (Paik, 1976) (A-C) and *A. jaegeri* sp. n. (D-F) from Korea. (A, D) Left male palp, retrolateral view. B, E. Median apophysis of left palpal organ, retrolateral view. (C, F) Epigynum, ventral view.

eight trichobothria in one row (eight on first, second and fourth leg, six on third), tarsi with seven to nine trichobothria in one row (nine on first and fourth leg, eight on second, seven on third); tarsal organ situated close to distal end of tarsus, slightly anteriorly of distal trichobothrium; tarsi with three claws, upper claws with 9-12 teeth (12 on first and second leg, 10 on third, nine on fourth), lower claw with two teeth (on all legs). Leg spination (see Table 2): Leg I: Femur with five spines, tibia with eight

spines, one small spine on inner ventral side half as long as others (two, 0-1-1 prolaterally; six, 2-2-2a ventrally), metatarsus with nine spines (two, 1-0-1 prolaterally; one, 0-0-1 retrolaterally; six, 2-2-2 ventrally), tarsus without spine; leg II: Femur with four spines, tibia with six spines (two, 0-1-1 prolaterally; four, 1-1-2a ventrally), metatarsus with nine spines (three, 0-1-2 prolaterally; six, 2-2-2 ventrally), tarsus without spine; leg III: Femur with seven spines, tibia with 11 spines (one, 1-0-0 dorsally; two, 1-1 prolaterally; two, 0-1-1 retrolaterally; six, 2-2-2a ventrally), metatarsus with 16 spines (ten, 1-2-2 prolaterally and retrolaterally; six, 2-2-2 ventrally), tarsus with four spines (two, 0-1-1 prolaterally; one, 0-1-0 retrolaterally; one, 0-1-0 ventrally); leg IV: Femur with four spines, tibia with 10 spines (four, 1-1 prolaterally and retrolaterally; six, 2-2-2a ventrally), metatarsus with 16 spines (10, 1-2-2 prolaterally and retrolaterally; six, 2-2-2 ventrally), tarsus with seven spines (four, 0-1-3 prolaterally; two, 0-1-1 retrolaterally; one, 0-1-0 ventrally). Abdomen ovoid, with scattered brownish yellow spots and without distinct chevrons on dorsal side (Fig. 5A). Cribellum absent.

Epigynum (Figs 5G, H, 6A-B, 7F): Epigynal teeth absent; genital opening heart-shaped, two times as wide as long (length 0.3 mm, width 0.6 mm); atrial septum indistinct, originating on posterior plate; copulatory pores deep, round on both sides; atrial hood absent; copulatory ducts broadly curved, with transparent membranes, slightly overlapped for half of the outline of the longest duct (from genital opening to upper returning part); spermathecal heads developed as small cylindrical processes situated at anterior end of spermathecae; spermathecae large, curved inwards, with distinct stalks and bases; fertilization ducts small, arising from the posterior ends of the spermathecae.

DISTRIBUTION: Korea (Mt Odae, Mt Samak).

REMARKS: The specimens examined were found wandering on the ground among stones and leaf litter.

ACKNOWLEDGEMENTS

The author wishes to express his sincere thanks to Prof. W. Lee of Hanyang University, Seoul and Prof. J. P. Kim of Dongguk University, Seoul, to Dr D. X. Song of Hebei University, China, to Dr X. Xu of the Chinese Academy of Sciences, to Dr Y. M. Marusik of the Russian Academy of Sciences, to Dr X. P. Wang of the University of Florida, U.S.A, to Dr P. Jäger of the Senckenberg Museum, Germany, and to Dr P. J. Schwendinger of the Muséum d'histoire naturelle, Genève for many valuable comments and for providing several important papers. This research was financially supported by the Korea Research Foundation Grant (KRF-2006-005-J01901).

REFERENCES

- GREENSLADE, P. & GREENSLADE, P. J. M. 1971. The use of baits and preservatives in pitfall traps. *Journal of Australian Entomology Society* 10: 253-260.
- KIM, J. P. & CHO, J. H. 2002. Spider: Natural Enemy and Resources. *Korean Research Institute of Bioscience and Biotechnology, Daejeon*. 424 pp. (In Korean)
- KIM, J. P. & JUNG, C. H. 1993. A new species of the genus *Coelotes* (Araneae: Agelenidae) from Korea. *Korean Arachnology* 9: 1-6.

- KIM, B. W. & LEE, W. 2006. Two poorly known species of the spider genus *Ambanus* (Arachnida: Araneae: Amaurobiidae) in Korea. *Journal of Natural History* 40(23-24): 1425-1442.
- KIM, B. W. & LEE, W. 2007. Spiders of the genus *Dracoanrius* (Araneae: Amaurobiidae) from Korea. *Journal of Arachnology* 35: 113-128.
- NAMKUNG, J. 2001. The spiders of Korea (1st edition). *Kyo-Hak Publishing Co., Seoul*, 648 p. (In Korean).
- NAMKUNG, J. 2003. The spiders of Korea (2nd edition). *Kyo-Hak Publishing Co., Seoul*, 648 p. (In Korean).
- OVTCHINNIKOV, S. V. 1999. On the supraspecific systematics of the subfamily Coelotinae (Araneae, Amaurobiidae) in the former USSR fauna. *Tethys entomological Research* 1: 63-80.
- PAIK, K. Y. 1972. One new spider of genus *Coelotes*. *Theses Collections of Graduate School of Education, Kyungpook University* 3: 49-52.
- PAIK, K. Y. 1974. Three new spiders of genus *Coelotes* (Araneae: Agelenidae). *Research Review of Kyungpook National University* 18: 32-43.
- PAIK, K. Y. 1976. Five new spiders of genus *Coelotes* (Araneae: Agelenidae). *Educational Journal of Teachers Collection, Kyungpook University* 18: 77-88.
- PAIK, K. Y. 1978. Illustrated Flora and Fauna of Korea. Volume 21 (Araneae). *Samwha Press, Seoul*. 546 pp. (In Korean).
- PAIK, K. Y. 1992. A new genus of the family Clubionidae (Arachnida, Araneae) from Korea. *Korean Arachnology* 8: 7-12.
- PLATNICK, N. I. 2007. The world spider catalog, version 7.5. American Museum of Natural History. New York. Available from <http://research.amnh.org/entomology/spiders/catalog/index.html> (accessed 21 May 2007).
- SONG, D. X., ZHU, M. S., GAO, S. S. & GUAN, J. D. 1993. On new species of the genera *Coelotes* and *Tegenaria* from Liaoning, China (Araneae: Agelenidae). *Sinozoologia* 10: 93-98.
- WANG, X. P. 2002. A generic-level revision of the spider subfamily Coelotinae (Araneae, Amaurobiidae). *Bulletin of the American Museum of Natural History* 269: 1-150.
- WANG, X. P. 2007. Online Coelotinae. Version 2.0. Available from <http://www.amaurobiidae.com> (accessed 21 May 2007).